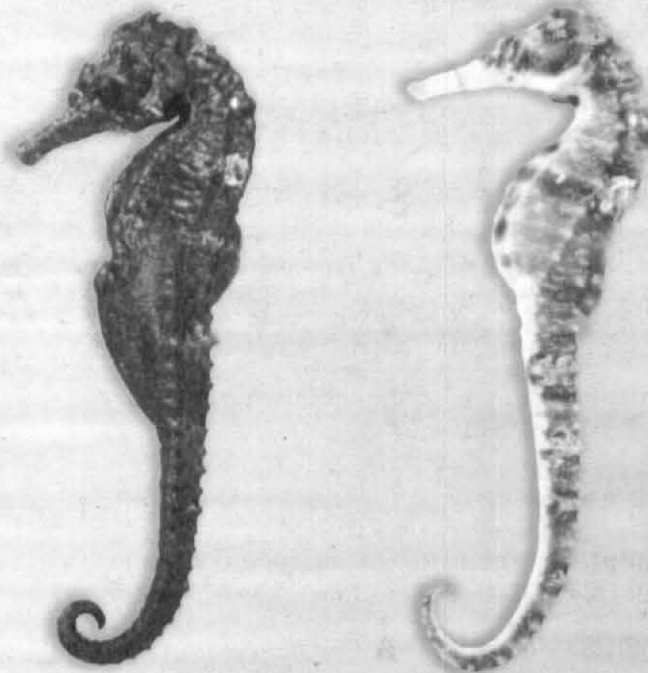




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**Present status of seahorse fishing along the Palk Bay coast of Tamilnadu**

Exploitation of seahorses by diving has been reported earlier along the Palk Bay coast from places such as Thondi, Puthupattinam, Mullimunai and Thirupalaikudi centres (Table 1) of Tamilnadu.

Owing to the high demand, the targeted fishing for seahorses expanded rapidly. Consequently, the catches also increased in 1995-1996 compared to 1993. During that period, the price of seahorses also increased by about 50 percent; accordingly the volume of trade became much higher. Consequent up on the ban by the Government of India for some of the marine finfishes and their products for export, the targeted fishing has also been reduced drastically except for a minor increase in August 2002.

**Cost of seahorse:**

In 2001: Rs.4000/kg for 10 cm and Rs.7500-8000/kg for 15 cm size group.

2002 June: Rs.500 to 1000/kg.

Last week of July 2002 onwards: Rs.2000 to 2500/kg (350-400 numbers/kg)

In Mullimunai, presently two traders collect seahorses. It was reported by them that earlier when the seahorses commanded high price, more traders used to visit the centre (Table1) to collect the dried seahorses from the fishers. In addition to catches by diving, the seahorses were also collected as a bycatch from the 'Thalluvalai' net (mesh size: 1.0cm). In this centre, sail boats (non-mechanised boats with 7 to 9 members/boat) are used for the fishing trips. After reaching the destinations, they dive for collecting gastropod shells, holothuria and seahorses. Depending on the suc-

cess of collections by diving, they change the fishing effort by using drag nets or squid jiggling devices to collect other finfish or cuttlefish and squid. Such diving/fishing activities last for about 6 to 8 hours depending on collections.

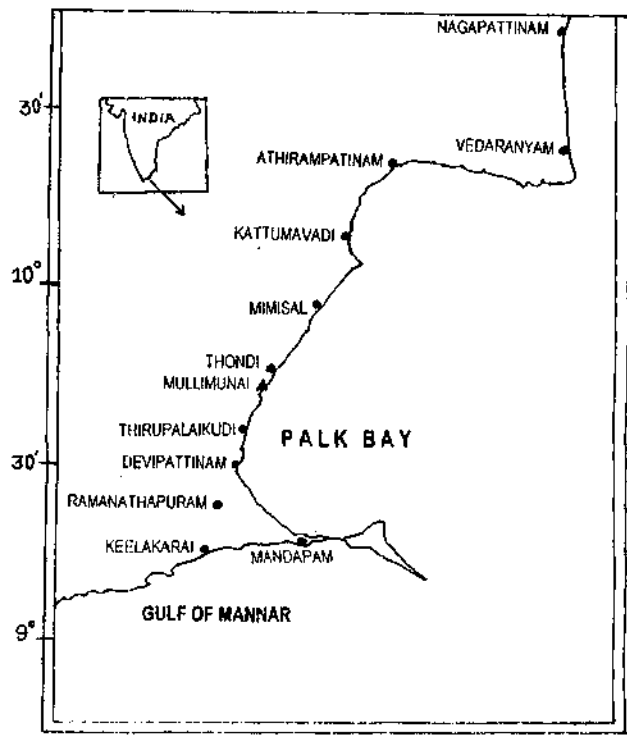
In Puthupattinam there were only occasional collection of seahorses by fishers which in turn were collected by traders. During 1990-2001, four traders collected the seahorses, while at present there is no collection and hence the fishers themselves go to Keelakarai and sell it to the resident traders.

In Thondi also, shortage of demand from the traders led to cancellation of targeted seahorses collection for about one and half years. However, from the last week of July 2002 onwards, the seahorse collection has started gaining momentum. In Thondi, four traders purchase the seahorse and send it to the nearby Kodipanku village. In addition to Thondi area, fishers from Pasipattinam, Devipattinam and Thirupalaikudi also collect sea horses occasionally when they go for diving for chanks, lambis and sea cucumbers.

Table 1. Lead centres along the Palk Bay coast for targeting seahorses, estimated catches in 1993, 2001 and present catch trend

Centre	Estimated catch as dried seahorses (kg/year)		
	1993	2001*	Present trend (August 2002)
Thondi	864	1300	30-40
Mullimunai	1152	1800	25-30
Morpanai	720	1000	15-20
Thirupalaikudi	960	1200	20-25

\*information collected from the traders



Map showing places of seahorse exploitation

**Species of seahorse:** Although in the earlier reports *Hippocampus kuda* was indicated as the species collected along the Palk Bay coast, a careful analysis of the collections during the present study indicated the availability of three species with the following distinguishing characteristics:

1. *Hippocampus trimaculatus*. Common name: 'three spot seahorse'.

Total number examined :	8
Standard length	: 122 to 144 mm
Rings	: 11+36 (ranging from 35 to 37)
Dorsal fin rays	: 18 to 19 covering 2+1 rings
Pectoral fin rays	: 15 to 16
Coronet	: Low and seen as five small elevated points.

This species could be easily distinguished from other species by the presence of sharp hook-shaped eye and check spines and the conspicuous absence of nose spine. In some larger specimens three dark spots were seen on the first, fourth and seventh trunk ring. These spots were easily seen in males. Among the live seahorses maintained in the laboratory (Vizhinjam Research Centre of CMFRI), these spots were vividly seen in males during the mating time. During



*Hippocampus trimaculatus*

observation days at Mullimunai, *Hippocampus trimaculatus* constituted 11.77% of the total species of seahorses obtained. This species is reported for the first time from this coast.

2. *Hippocampus kuda*. Common name: 'spotted or yellow seahorse'.

Total number examined :	18
Standard length	: 119 to 140 mm
Rings	: 11+34 (ranging from 30 to 35)
Dorsal fin rays	: 17 covering 2+1 rays
Pectoral fin rays	: 16
Coronet	: Very low and seen as five elevated points

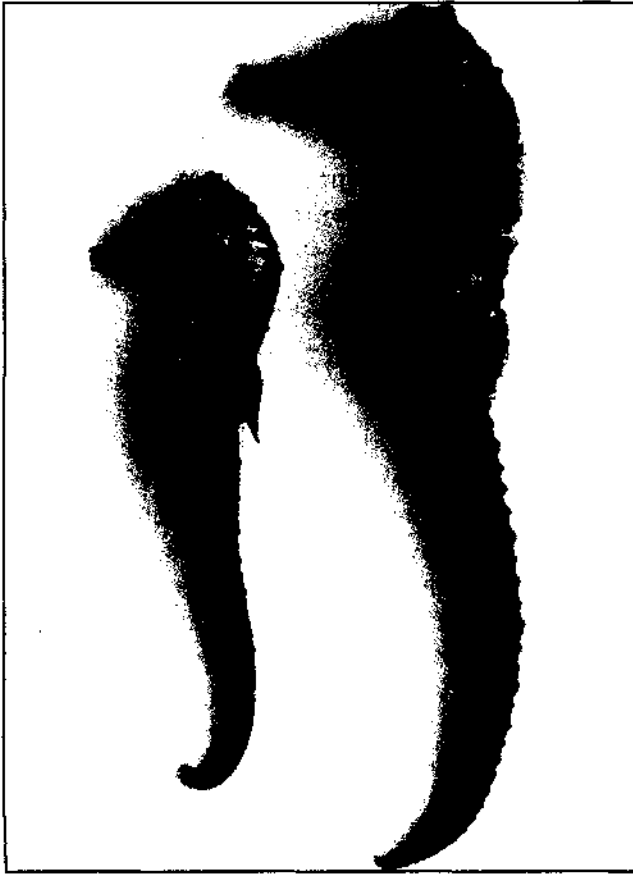
This species is abundant and common in this coast. During observation at Mullimunai, this species constituted 85.29% of the total species of seahorses collected from the centre.



*Hippocampus kuda*

3. *Hippocampus fuscus*. Common name: 'sea pony'

Total number examined	: 4
Standard length	: 127 to 191 mm
Rings	: 11+34 (ranging from 33 to 36)
Dorsal fin rays	: 16 covering 2+1 rays
Pectoral fin rays	: 16
Coronet	: Less pronounced

*Hippocampus fuscus*

The coronet was slightly raised and rough. Among the males, snout was shorter in relation to the head length when compared with the females. The cheek and eye spines were low. Compared to *Hippocampus kuda*, the tail rings are less and body narrow (Plate 3). *Hippocampus fuscus* consisted 2.94% of the total seahorses catch from the Mullimunai coast. This species is reported for the first time from Indian coastal waters. The morphometric and meristic characteristics of the above three species when compared, confirmed to the recent classification of seahorse species given by Lourie *et. al.* All the three species were recorded from depths ranging from 3 to 8 meters in areas endowed with sea grasses. Three species of sea grasses were recorded from the habitat of seahorses along the Palk Bay coast. On observation day, the surface water temperature was ranging from 26 to 28.8°C and dissolved oxygen, 4.18 to 4.92 ppm.

**Trade in seahorses along the coast:** In Keelakarai, the majority of seahorse collection centres had less than one kg of dried seahorses. Be-

fore the ban, 50 people were working in one collection centre while at present only 4 persons are engaged. Before the ban, the cost was ranging from Rs.4,000/- to 8,000/kg or more. Presently the cost ranges from Rs.700/- to 800/- (500 to 600 for dried seahorses) and Rs.1,000/- to 1,500/- (for 300 to 350 dried seahorses/kg) depending on the size.

In 1993, the price of seahorses were ranging from Rs. 8 to 10/piece. In 1999-2000, similar trend was noted and in exceptional cases the cost went up to Rs.12/piece. During this period, the larger seahorses commanded a higher price of Rs.12,000/kg. In addition, traders from Bihar, Madhya Pradesh came to the Palk Bay coast and transported seahorses to Burma border. Enquiries revealed that they exchanged the dried seahorses for other materials from Burma and other south east Asian countries. During 2001, the price came down to Rs.8 to 10/piece and the trade almost came to a halt after the ban.

The present purchase rates and trade link details are depicted below:

- Fisher folk, gets Rs.2 to 4 for an approximate weight of 1.5 to 1.8 g dried seahorse.
- Gives to the first trader in the shore who in turn gets Rs.100 as commission per kg.
- Second trader who collect from the above trader and sells to the resident trader
- Resident trader (in Keelakarai centre)
- Exporting company/trader in Chennai (this figure is not available at present as there is no legal export of seahorses)
- Destination country/Importing trader

Global trade in seahorses boomed in the 1980's following China's economic restructuring. During 1994-95, the Chinese trade estimated an annual increase of 8 to 10%. Due to slumbering of south east Asian countries, the Chinese traders sought supplies as far as from Ecuador and Mozambique. This in turn indicates a possible spurt in fishing for seahorse in the Palk Bay coast as and when the ban is relaxed.

**Future programmes of research:** Except for a mild increase in targeted fishing for seahorse during August 2002, fishing and export of dried seahorse have almost ceased during the year 2001 and 2002 in the major centres along the Palk Bay coast of Tamil Nadu. Analysis of samples and information collected indicated that

three species of seahorse are available in the Palk Bay coast compared to the earlier observations of one species, the *Hippocampus kuda* complex. The species availability and the growth rate of seahorse in the Palk Bay coast are to be investigated using genetic (DNA profile) marker studies and tagging experiments. These aspects

will be completed under the scientific programmes of the sponsored project funded by the Ministry of Environment and Forests, Government of India.

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